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AUGUST 1986

Arizona Occupational Profile

A Labor Market Information Publication
of the Department of Economic Security

CONSTRUCTION

UTAH
COCONINO
MOHAVE
KINGMAN
FLAGSTAFF
NAVAJO
APACHE
HOLBROOK
ST. JOHNS
CALIFORNIA
PRESCOTT
YAVAPAI
NEW MEXICO
PARKER
LA PAZ
GILA
PHOENIX
GLOBE
GREENLEE
CLIFTON
MARICOPA
FLORENCE
SAFFORD
YUMA
PINAL
GRAHAM
YUMA
TUCSON
PIMA
COCHISE
MEXICO
SANTA CRUZ
BISBEE
NOGALES
ARIZONA

OCCUPATIONAL PROFILE

The value of current and accurate occupational employment information has long been recognized by job seekers, public and private administrators, and those involved in training, recruiting, and counseling. A major source of this information in Arizona is the Occupational Employment Statistics (OES) Program--a cooperative effort between Arizona and the U.S. Bureau of Labor Statistics.

This Occupational Profile is one in a series of publications produced from information developed by the Occupational Employment Statistics survey. These publications represent one of several occupational employment information delivery systems incorporating OES survey data. The survey is used to collect employment data, by county, for over 700 occupations in Arizona. From these surveys, which require the cooperation of the Arizona business community, current employment in the various occupations is determined, and from this an occupational outlook is formulated. The Occupational Profiles contain the survey findings and examine, individually, the industries of Arizona.

Surveyed industries include:

Mining
Construction
Manufacturing
Transportation, Communications, and Public Utilities
Trade
Finance, Insurance, and Real Estate
Services
Hospitals
Educational Services
Government

For further information, or to comment on any aspect of this program, please write to the address on the back cover.

INDUSTRY DESCRIPTION

Occupational employment estimates for the construction industry in Arizona are provided herein for the state and counties. Firms included in the study represent those involved in new work, additions, alterations, and repairs. Three broad types of construction activity are recognized: 1) construction of buildings by general contractors or by operative builders, 2) construction by general contractors not constructing buildings, and 3) construction by special trade contractors. Investment builders who build structures on their own account for rental are classified in the real estate industry, but establishments primarily engaged in construction on their own account for subsequent sale are classified in construction.

General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other such projects. General contractors not constructing buildings (often referred to as heavy construction contractors) are primarily engaged in the construction of highways, streets, bridges, dams, and water projects.

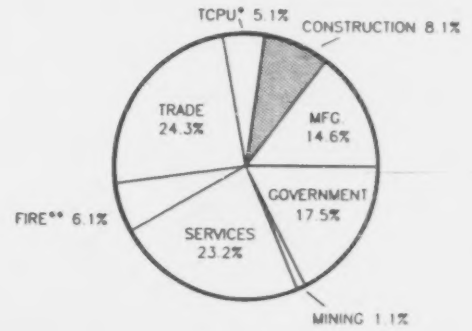
Special trade contractors are primarily engaged in specialized construction activities such as plumbing, painting, and electrical work.

A detailed description of the construction industry is provided in the *Standard Industrial Classification Manual*[1] under codes 15, 16, and 17.

INDUSTRY CHARACTERISTICS

Employment of workers earning a wage or salary in Arizona's construction industry averaged 96,000 in 1984 and represented 8 percent of Arizona's more than 1.2 million workers. Nearly two of every three workers in the industry are employed by special trade contractors--most doing masonry,

FIGURE 1: ARIZONA NONAGRICULTURAL EMPLOYMENT, 1984



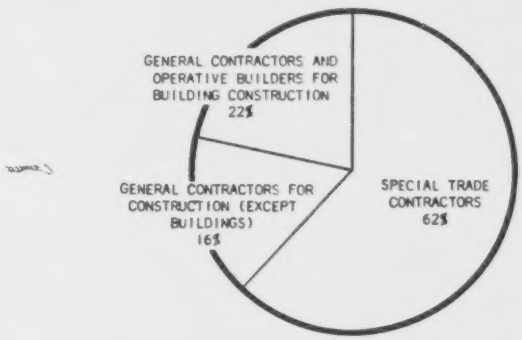
* TCPU = Transportation, Communications, and Public Utilities
** FIRE = Finance, Insurance, and Real Estate

[1]Office of Management and Budget, *Standard Industrial Classification Manual*, 1972 Edition, pp. 45-56.

stonework, and plastering; plumbing, heating, and air conditioning; and electrical work. Special trade contractors, who work directly for the owner or on subcontract from general contractors, employed 58,000 in May 1984.

The remainder of construction employment is made up of general contractors. In 1984, 22 percent of Arizona's construction employment was with general contractors and operative builders for building construction--primarily residential housing. Of those not constructing buildings, most were involved with street and highway construction.

FIGURE 2: CONSTRUCTION EMPLOYMENT BY ACTIVITY, 1984


GENERAL CONTRACTORS AND OPERATIVE BUILDERS FOR BUILDING CONSTRUCTION 22%
GENERAL CONTRACTORS FOR CONSTRUCTION (EXCEPT BUILDINGS) 16%
SPECIAL TRADE CONTRACTORS 62%

Construction employment is concentrated in metropolitan Phoenix (Maricopa County) and Tucson (Pima County) which account for 69 and 19 percent of the state total, respectively. The remaining 12 percent work in the nonmetropolitan counties or "balance of state."

Whereas 14 percent of construction employment in the two metropolitan counties is claimed by nonbuilding contract construction, such employment in the balance of state accounts for 30 percent of the industry. Most of this employment is involved with street and highway maintenance and construction. Due to construction of a power plant, however, construction employment in Apache County led that of all other nonmetropolitan counties in 1984.

Most construction firms employ fewer than 20, although firms involved in heavy construction tend to be larger. Ninety percent of firms engaged in building or special trade construction had fewer than 20 wage earners on their payroll and only one percent had more than 100. Of firms engaged in nonbuilding contract construction, 73 percent employed fewer than 20 and six percent had more than 100. This is compared to 86 and three percent for all industries in Arizona. The average number of construction firms with payrolls was 8,600 in 1984. According to a census of construction done by the U.S. Bureau of Census in 1982, only 40 percent of construction firms operating in the state had payrolls--the balance were single proprietorships which used only contract labor.

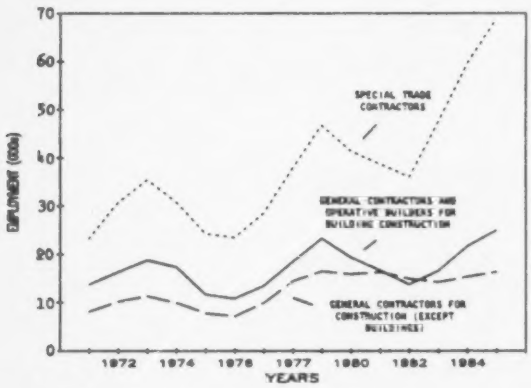
INDUSTRY TRENDS

Construction in Arizona has in recent years reached unprecedented levels of activity, with employment in the industry peaking at 111,000 in June 1985. Recovery from the effects of the 1981-82 recession has seen construction employment expand 67 percent as compared to 22 percent for total Arizona employment. Led by consumer demand, the value of building construction awards between 1982 and 1984 increased more than $1 billion in constant dollars--with most of the value claimed by residential builders.

Buoyed by population increases that consistently rank Arizona as one of the country's fastest growing states, the construction industry employs approximately one of every 12 Arizonans earning a wage or salary. This ratio is nearly 40 percent higher than that of the U.S. and reflects the state's demand for shopping centers, highways, commercial and industrial buildings, and other facilities needed to accommodate an expanding population.

Population expansion, economic growth, and the robust nature of construction activity do not insulate employment from the cyclical swings that typify the industry. Following the high level of activity in 1979 the decline of contract construction in Arizona was more severe than in the U.S. as a whole, and local employment in construction plummeted by 25 percent between 1979 and 1982. Nationally, the decline in construction employment measured 16 percent. Suppressing demand for

FIGURE 3: ARIZONA CONSTRUCTION EMPLOYMENT, 1971–1985



housing were high mortgage rates and home prices, slower population growth, moderate employment expansion and a sufficient inventory of housing available to forestall a shortage.

Arizona's construction industry was, however, in the forefront of the state's recovery from the recession, and few analysts foresaw the degree of vigor that characterized the rebound. From a recent low of 62,800 in March 1982, employment in the industry mushroomed to nearly 90,000 by the end of the following year. Dwelling units awarded in 1983 totaled nearly 71,000--up from 38,000 in the previous year.

Such fluctuations of construction activity are especially apparent in the residential sector, which is particularly sensitive to cyclical business patterns. Less cyclical in nature are nonresidential construction of buildings and, as suggested by figure 3, nonbuilding or heavy construction, which is not necessarily tied to the ever-changing forces of the business cycle. Non-building or heavy contract construction includes construction of large projects such as electric generating facilities and water delivery systems such as the Central Arizona Project.

Since bottoming-out in 1982, construction employment rebounded with substantial gains in special trade contracting and the construction of buildings--in particular single family homes. Special trade contractors registering especially strong growth were masonry and plastering firms, roofing and siding firms, and contractors primarily involved in concrete work.

During this period both Maricopa and Pima increased their shares of Arizona construction employment while those claimed by most metropolitan counties declined. Rural counties registering the strongest employment expansion and, in fact, increasing their share of employment were Pinal and Yavapai counties.

The maturing expansion phase of the latest business cycle saw employment in the industry register surprisingly strong month-to-month increases well into 1985. As 1986 began to unfold, however, Arizona's construction industry confronted a host of conditions that will likely rein its expansion. Much of the suppressed demand of past years has been satisfied and the industry now faces high vacancy rates in both commercial buildings and multi-family housing. Layoffs had already occurred by the end of 1985 and little, if any, employment growth is expected through 1986.

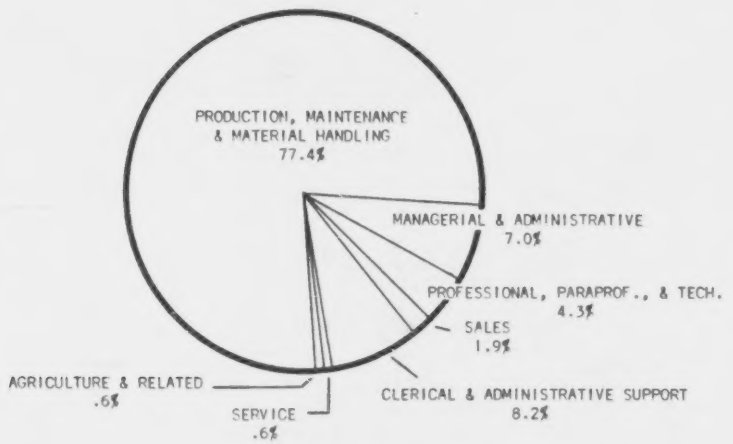
In the near term, it appears that continued population growth and relatively low interest rates will sustain residential building, while the recent sales tax increase in Maricopa County will finance new highway construction and maintain a demand for workers in heavy construction. Demographics will also continue to help sustain single-family housing as the number of persons in the 25-44 age group increases. The 35-44 age group will be expanding especially fast and will create demand for larger single-family homes targeted for trade-up home buyers. In the longer term, however, increases in construction employment will not mirror levels of construction activity. Technological developments such as the use of prefabricated walls in building construction will continue to raise output per worker. Nonetheless, employment in construction will expand 26 percent between 1984 and 1988 and will be led by contract construction of buildings which is predicted to increase 40 percent over the period. Expected to register somewhat less growth is special trade and heavy construction employment. It should be noted that the greatest portion of the projected 26 percent expansion has already occurred as the industry rebounded from the latest recession. Between 1984 and 1985, average annual employment in construction increased 14,000 or 15 percent.

OCCUPATIONAL ANALYSIS

Led by carpenters, electricians, plumbers, and other trades workers, construction employment is dominated by production and maintenance workers who represent three of every four workers in the industry. Encompassing a wide range of occupations and skill levels, workers in this category engage primarily in construction, machine operation, repair maintenance, and material handling activities. With employment of 9,100, carpenters represent the most numerically prominent occupation in the industry and are followed by electricians with 4,800.

The reader is reminded that the scope of this study includes only those workers earning a wage or salary. It is estimated, however, that one of every five construction craft workers is self-employed--most contracting with homeowners and businesses for small jobs. Self-employment is most common in paperhanging, painting, and floor covering work, although it is also found in other trades.

FIGURE 4: OCCUPATIONS IN CONSTRUCTION
MAY 1984


PRODUCTION, MAINTENANCE & MATERIAL HANDLING 77.4%
MANAGERIAL & ADMINISTRATIVE 7.0%
PROFESSIONAL, PARAPROF., & TECH. 4.3%
SALES 1.9%
CLERICAL & ADMINISTRATIVE SUPPORT 8.2%
SERVICE .6%
AGRICULTURE & RELATED .6%

Trailing a distant second to production and maintenance workers is employment of clerical workers. Common to most firms, regardless of construction activities, clerical workers numbered 7,800 in May 1984, and were led by employment of secretaries and general office clerks.

Activities of firms in the industry are reflected by staffing patterns for the three broad types of construction as described on page 1. General contractors for construction of buildings, for example, employ a comparatively large share of administrative and support personnel. This is, in part, because operative builders who build on their own accounts and then sell the buildings require a more varied staff than firms that engage in construction only. In comparison, nonbuilding contract construction, and special trade construction are more dominated by production and maintenance workers. In the former, laborers and heavy equipment operators are most numerous, whereas in special trades construction, carpenters prevail.

FIGURE 5: OCCUPATIONS WITH THE GREATEST EMPLOYMENT IN ARIZONA'S CONSTRUCTION INDUSTRY

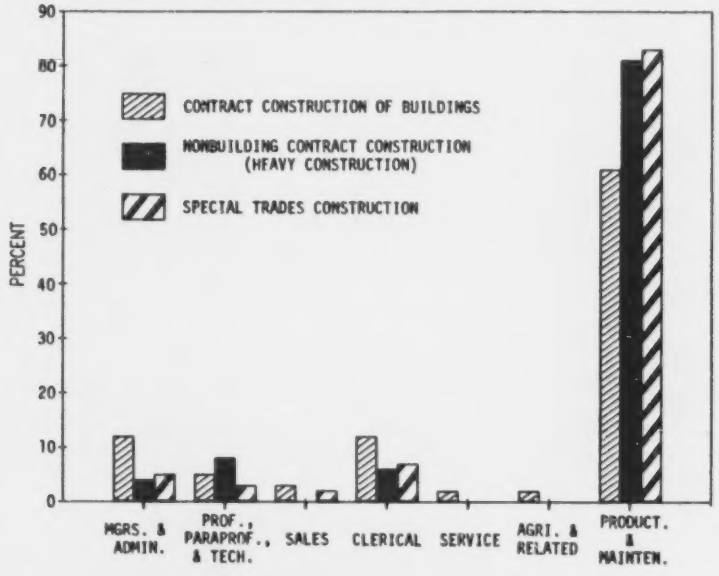
	Employment 1984	Job Openings* 1984-1988
Carpenters	9,079	3,808
Electricians	4,779	1,567
Plumbers, Pipefitters, & Steamfitters	3,875	1,343
First Line Mgrs./Suprvs.-Const. Trades & Extract.	3,759	1,430
General Managers & Top Executives	2,877	1,100
Helpers-Carpenters & Related	2,874	1,126
Concrete & Terrazzo Finishers	2,701	885
Secretaries	2,673	1,342
Painters & Paperhangers	2,548	905
Construction Managers	2,485	983
Roofers	2,475	693
Operating Engineers	2,439	936
Brick Masons	2,165	653
Drywall Installers	1,934	532
Helpers-Brick & Stone Masons	1,893	540
Heating, Air Cond., & Refrig. Mechs. & Installers	1,866	587
Bookkeeping, Accounting, & Auditing Clerks	1,795	805
Sheet Metal Workers	1,681	475
Cost Estimators	1,460	683
Tapers	1,427	469
Truck Drivers, Heavy or Tractor Trailer	1,347	446
General Office Clerks	1,345	624
Helpers, Plumbers, Pipefitters, & Steamfitters	1,305	350
Plasterers & Stucco Masons	1,195	310
Helpers-Electricians & Powerline Installers	988	327
Helpers-Painters, Paperhangers, & Plasterers	863	240
Lathers	798	215
Maintenance Repairers, General Utility	770	243
Structural Metal Workers	754	215
Financial Managers	719	257
Insulation Workers	707	170
Pipelayers	693	261
Welders & Cutters	588	202
Excavating & Loading Machine Operators	565	193
Fence Erectors	538	184

*Does not include turnover.

Looking to the future, it is obvious that Arizona's rapidly expanding population will require additional housing, hospitals, schools, recreation facilities, and other structures. Alteration and modernization of existing structures, higher personal income, and increases in spending for new industrial plants and equipment will further stimulate demand for construction workers. As mentioned earlier, of the three major categories of construction employment, contract construction of buildings is expected to realize the highest growth rates. However, because employment in special trades construction is so much larger, it will be in this category that the greatest number of job opportunities transpire. In addition to the openings created by industry growth will be many more that result from turnover and departures from the labor force--despite the fact that construction workers have a stronger attachment to their fields than do workers in general.

As mentioned, new technology is increasing productivity and redefining certain construction occupations. For example, Al Schifano, vice president, administration, at Sundt Corporation in Tucson cites the use of lasers in setting grades and plumb-lines, and the routine use of personal computers. "Computers enable contractors to price and schedule their work more effectively and to monitor costs more accurately," says Schifano, who notes that personal computers are now commonplace at job sites and field offices. As in other industries, the application of new technologies generally modifies the manner in which tasks are accomplished rather than creates new occupations.

FIGURE 6: OCCUPATIONAL EMPLOYMENT IN THE THREE MAJOR CATEGORIES OF CONSTRUCTION



Benefiting from the largest number of opportunities in construction are job aspirants with carpentry skills. During the projection period, construction firms in Arizona will create an estimated 3,800 openings for

FIGURE 7: PREDICTED GROWTH OF CONSTRUCTION TRADES OCCUPATIONS IN THE U.S. THROUGH THE 1980s

Occupation	Growth Rate	Comments
Bricklayers	Faster than Average	Increased use as decorative work and in interior load bearing walls.
Stonemasons	Slower than Average	Stone is relatively expensive.
Carpenters	Average	High replacement needs because of large number employed.
Cement Masons & Terrazzo Workers	Faster than Average	Increased use of concrete and prestressed columns and beams; high replacement needs.
Drywall Installers & Finishers	Faster than Average	Opportunities especially favorable in commercial construction.
Electricians	Average	High replacement needs because of large number employed.
Floor Covering Installers	Average	Use of plywood rather than hardwood generally requires carpet or resilient floors, versatile materials.
Glaziers	Faster than Average	Increased use of glass in building construction.
Insulation Workers	Faster than Average	Increased energy consciousness.
Ironworkers	Faster than Average	Highway and bridge maintenance, and construction of buildings and power transmission towers.
Painters & Paperhangers	Average	High replacement needs because of large number employed.
Plasterers	Slower than Average	The decline in the number of plasterers has halted in recent years and may reverse because of certain advantages that plaster offers.
Plumbers & Pipefitters	Faster than Average	High replacement needs because of large number employed. Increased construction, and renovation of chemical plants, refineries, factories, and other large buildings and facilities.
Roofers	Average	
Sheet Metal Workers	Faster than Average	Replacement of existing air-conditioning systems with more efficient systems, and installation of heating equipment will boost employment.
Tilesetters	Faster than Average	Increased use in home, office, and commercial buildings because of durability and low maintenance costs.

SOURCE: Bureau of Labor Statistics

carpenters as well as 1,600 for electricians and 1,300 for plumbers, pipefitters, and steamfitters. Led by these and other construction trades workers, the production and maintenance workers category will account for three of every four openings in the industry. Despite slower employment growth for laborers and certain other production and maintenance occupations as a result of technological improvements and labor saving techniques, this broad occupational category is expected to maintain its 78 percent share of industry employment.

FIGURE 8: OCCUPATIONS WITH THE GREATEST EMPLOYMENT
IN THE THREE MAJOR CATEGORIES OF CONSTRUCTION
MAY 1984

CONTRACT CONSTRUCTION OF BUILDINGS		NONBUILDING CONTRACT CONSTRUCTION (HEAVY CONSTRUCTION)		SPECIAL TRADES CONSTRUCTION	
Carpenters	3,997	Laborers & Helpers, Exc. Trades	1,866	Carpenters	4,423
Carpenter's Helpers	1,944	Operating Engineers	1,574	Electricians	3,675
Laborers & Helpers, Exc. Trades	1,917	Electricians	969	Plumbers & Pipefitters	3,108
Construction Supervisors	1,442	Truck Drivers, Heavy	947	Laborers & Helpers, Exc. Trades	3,029
Construction Managers	1,162	Carpenters	659	Roofers	2,325
Secretaries	1,110	Pipelayers	633	Painters & Paperhangers	2,303
General Mgrs. & Top Execs.	924	Plumbers & Pipefitters	631	Concrete & Terrazo Finishers	1,913

The prospects for growth notwithstanding, workers employed in the various construction trades encounter varying degrees of success in weathering economic downturns, intervals between short-term projects, and the inevitable periods of depressed construction activity. For example, carpenters with diversified skills will have better opportunities than those who can only do relatively routine types of carpentry, and some electricians are able to transfer to positions as maintenance electricians in other industries. In fact, nearly one-third of Arizona's electricians are employed in industries other than construction while nationally about half are employed outside the construction industry.

Because construction trades often depend on one another--particularly on large projects--work delays or strikes in one trade can delay or stop work in another. This, in addition to work stoppages caused by inclement weather, boosts national unemployment in construction to more than twice the average for all industries.

Clerical occupations, which account for eight percent of the construction industry's employment will account for about 10 percent or 3,400 of the industry's projected 33,000 openings during the 1984-1988 period. Most of the openings will be for secretaries and bookkeeping, accounting, and auditing clerks.

Managerial and administrative occupations, which constitute construction's third largest occupational group, will generate about 2,500 openings in the four-year period. Most of these opportunities will be for general managers and top executives and construction managers.

OCCUPATIONAL STRUCTURE

The following tables provide employment estimates and projected employment and job openings for the counties and the state. Graham and Greenlee counties have been combined due to their close proximity, similar economies, and size. A table for La Paz county is not included because of limited construction employment.

When using the data, please note the following:

1) Construction employment growth in each of the nonmetropolitan counties reflects the rate calculated for the "balance of state" (Arizona less Maricopa and Pima counties).

2) The data reflect full- and part-time wage and salary employment only, and do not include self-employed or unpaid family workers.

3) Total job openings represent the number of openings due to growth of the industry and separations from the labor force. They do not account for labor turnover, i.e., openings created when a worker changes-jobs, leaving the job to be filled by someone else. These vacancies are generally the largest source of job openings.

4) To eliminate the possible disclosure of confidential employer information, occupations have been added to the appropriate "All Other" or residual category if: less than three firms reported a single occupation; one firm reported more than 50 percent of the occupational estimate; two firms combined reported more than 75 percent of the occupational estimate. In certain cases, releases have been obtained from large employers to waive the confidentiality criteria.

5) The projection technique does not possess the degree of accuracy that may be implied by unrounded numbers.

6) Data for occupations with employment of less than five are included in the appropriate "All Other" categories. These occupations are not listed, however, in the summary of "All Other" categories which follows each table.

ESTIMATED EMPLOYMENT AND JOB OPENINGS

CONSTRUCTION

STATEWIDE

	ESTIMATED MAY 1984 EMPLOYMENT	PERCENT OF MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	6,449	7.0	8,234	2,481
Financial Managers	719	.8	908	257
Personnel, Training, & Labor Relations Mgrs.	23	.0	27	4
Purchasing Managers	9	.0	10	1
Marketing, Advertising, & Public Rel. Mgrs.	64	.1	83	24
Administrative Services Managers	81	.1	105	29
Construction Managers	2,485	2.7	3,211	983
General Managers & Top Executives	2,877	3.1	3,638	1,100
All Other Managers & Administrators	191	.2	252	83
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	3,897	4.3	4,946	1,517
Management Support Occupations	2,209	2.4	2,788	957
Accountants & Auditors	385	.4	488	146
Budget Analysts	35	.0	45	14
All Other Financial Specialists	21	.0	27	7
Purchasing Agents, Exc. Wholesale, Retail, & Farm	178	.2	223	60
Personnel, Training, & Labor Rel. Specialists	7	.0	7	0
Cost Estimators	1,460	1.6	1,841	683
Construction & Building Inspectors	40	.1	50	15
All Other Management Support Workers	83	.1	107	32
Engineering & Related Occupations	1,550	1.7	1,987	525
Civil Engineers, Incl. Traffic	180	.2	230	67
Electrical & Electronic Engineers	301	.3	394	110
Industrial Engineers, Exc. Safety	28	.0	37	11
Safety Engineers, Exc. Mining	23	.0	29	6
Mechanical Engineers	353	.4	459	125
All Other Engineers	134	.1	179	53
Architects, Exc. Landscape & Marine	28	.0	34	8
Landscape Architects	11	.1	14	4
Surveying & Mapping Scientists	23	.1	30	8
Civil Engineering Technicians & Technologists	15	.0	18	3
Electrical/Electronic Engineering Technicians	95	.1	117	26
Mechanical Engineering Techs.	36	.0	47	12
Drafters	293	.3	364	87
Surveying & Mapping Techs.	16	.1	19	3
All Other Engineering & Related Technicians	14	.0	16	2
Natural Scientists & Related Workers	1	.0	1	0
Computer, Math, Research, & Related Occupations	60	.1	73	13
Systems Analysts, Electronic Data Processing	24	.0	30	6
Computer Programmers	29	.0	34	5
Computer Programmer Aides	7	.1	9	2
Social Scientists/Other Social & Religious	3	.0	3	0
Health Practitioners, Techs., & Related Occupations	5	.0	6	1
Writers, Artists, Athletes, & Related	14	.0	18	4
Interior Designers	14	.0	18	4
All Other Professional, Paraprofessional, & Technical Workers	55	.1	70	17
SALES & RELATED OCCUPATIONS	1,668	1.9	2,118	688
First Line Supervisors & Manager/Supervisors	64	.1	79	21
First Line Supervisors & Managers - Sales	64	.1	79	21
Merchandise, Products & Other Sales	1,604	1.8	2,039	667
Sales Engineers	67	.1	83	16

ESTIMATED EMPLOYMENT AND JOB OPENINGS

CONSTRUCTION

STATEWIDE (CONTD.)

	ESTIMATED MAY 1984 EMPLOYMENT	PERCENT OF MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	TOTAL JOB OPENINGS 1984-1988
Sales Representatives, Scientific & Related Products & Services, Exc. Retail	62	.1	77	20
Other Sales Representatives, Exc. Retail	1,214	1.3	1,544	521
All Other Sales & Related Workers	261	.3	335	110
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	7,764	8.2	9,778	3,437
First Line Supervisors & Manager/Supervisors	188	.2	231	59
First Line Supers.-Clerical & Admin. Support	188	.2	231	59
Selected Secretarial & Gen. Office Occupations	6,682	7.1	8,451	3,102
Secretaries	2,673	2.9	3,419	1,342
Receptionists & Information Clerks	180	.2	227	76
Typists	183	.2	226	84
Typists, Word Processing Equipment	77	.1	94	22
Personnel Clerks, Exc. Payroll & Timekeeping	12	.0	13	1
File Clerks	38	.0	47	17
Procurement Clerks	29	.0	33	4
Bookkeeping, Accounting, & Auditing Clerks	1,795	1.9	2,264	805
Payroll & Timekeeping Clerks	321	.3	396	120
Billing, Cost, & Rate Clerks	29	.0	34	7
General Office Clerks	1,345	1.4	1,698	624
Office Machine Operators	106	.1	126	23
Billing, Posting, & Calculating Machine Opers.	15	.0	18	4
Computer Operators, Exc. Peripheral Equipment	41	.0	51	11
Data Entry Keyers, Exc. Composing	41	.0	47	6
All Other Office Machine Operators	9	.1	10	2
Communications & Message Distribution	122	.1	147	53
Switchboard Operators	122	.1	147	53
Material Distribution & Recording Occupations	528	.6	636	148
Dispatchers - Exc. Police, Fire, & Ambulance	102	.1	120	21
Production, Planning, & Expediting Clerks	42	.0	54	17
Stock Clerks - Stockroom, Warehouse, or Yard	364	.4	439	106
Traffic, Shipping, & Receiving Clerks	14	.1	17	4
All Other Material Recording/Scheduling/Dist.	6	.0	6	0
All Other Clerical & Administrative Support	138	.1	187	52
SERVICE OCCUPATIONS	646	.6	841	280
First Line Supervisors & Managers - Service	44	.0	55	16
Protective Service Occupations	168	.2	215	58
Guards & Watch Guards	131	.1	173	48
All Other Protective Service Workers	37	.1	42	10
Food & Beverage Preparation	120	.1	163	64
Cleaning & Building Services Occupations	271	.3	351	119
Janitors & Cleaners, Exc. Maids & Housekeeping	235	.3	304	102
All Other Cleaning/Building Service, Exc. Private House	36	.0	47	17
All Other Service Workers	43	.0	57	23
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	543	.6	732	283
Other Agricultural/Forestry/Fishing & Related	543	.6	732	283
Gardeners & Groundskeepers, Exc. Farm	441	.5	592	234
All Other Agri., Forestry, Fishing, & Related	102	.1	140	49

ESTIMATED EMPLOYMENT AND JOB OPENINGS

CONSTRUCTION

STATEWIDE (CONTD.)

	ESTIMATED MAY 1984 EMPLOYMENT	PERCENT OF MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	TOTAL JOB OPENINGS 1984-1988
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	72,803	77.5	91,200	24,808
First Line Supervisors & Managers-Prod. & Rel.	3,923	4.2	5,024	1,473
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	88	.1	105	23
First Line Managers/Supervisors - Construction Trades & Extraction Workers	3,759	4.0	4,829	1,430
First Line Mgrs./Supers. - Transport. Operatives	18	.0	21	4
First Line Mgrs./Supers. - Laborers & Helpers	36	.1	44	11
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	22	.0	25	5
Inspectors & Related Occupations	272	.3	362	121
Precision Inspectors, Testers, & Graders	185	.2	246	83
Production Inspectors, Testers, & Graders	81	.1	108	36
All Other Inspectors, Testers, & Related	6	.0	8	2
Mechanics, Installers, & Repairers	4,945	5.3	5,996	1,421
Millwrights	222	.2	269	72
Machinery Maintenance Workers	60	.1	69	13
Maintenance Repairers, General Utility	770	.8	952	243
Automotive Mechanics	204	.3	244	46
Bus & Truck Mechs., & Diesel Eng. Specialists	184	.2	228	54
Mobile Heavy Equip. Mechanics, Exc. Engines	365	.4	442	89
Telephone & Cable TV Line Installers/Repairers	334	.4	404	86
Electrical Powerline Installers & Repairers	241	.3	276	52
All Other Electrical Mechs./Installers/Repairers	145	.1	169	33
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	1,866	2.0	2,286	587
Elevator Installers & Repairers	45	.0	53	12
Riggers	72	.2	78	13
Installers/Repairers - Manufactured Buildings	39	.0	47	8
All Other Mechanics, Installers, & Repairers	398	.0	479	113
Construction Trades & Extraction	38,591	41.2	48,061	13,066
Carpenters	9,079	9.7	11,712	3,808
Ceiling Tile Installers/Accoustical Carpenters	211	.2	255	34
Drywall Installers	1,934	2.1	2,374	532
Tapers	1,427	1.5	1,736	469
Lathers	798	.9	960	215
Electricians	4,779	5.1	5,883	1,567
Brick Masons	2,165	2.3	2,651	653
Stone Masons	193	.2	249	69
Hard Tile Setters	471	.5	579	145
Concrete & Terrazzo Finishers	2,701	2.9	3,405	885
Reinforcing Metal Workers	276	.3	332	85
Plasterers & Stucco Masons	1,195	1.3	1,444	310
Painters & Paperhangers - Construction & Maintenance	2,548	2.7	3,137	905
Plumbers, Pipefitters, & Steamfitters	3,875	4.1	4,827	1,343
Pipelaying Fitters	110	.1	124	24
Pipelayers	693	.7	879	261
Carpet Installers	108	.1	136	33
Floor Layers, Exc. Carpet, Wood, & Hard Tiles	80	.1	99	21
Air Hammer Operators	143	.2	172	44
Paving, Surfacing, & Tamping Equip. Opers.	413	.4	514	143
Insulation Workers	707	.8	852	170
Sheet Metal Duct Installers	14	.0	16	2
Roofers	2,475	2.6	3,045	693
Glaziers	523	.6	635	157
Structural Metal Workers	754	.8	920	215
Fence Erectors	538	.6	662	184
All Other Construction Trades Workers	224	.2	279	66
Earth Drillers, Exc. Oil & Gas	100	.1	116	20
All Other Extraction Workers, Exc. Helpers	57	.1	68	13

ESTIMATED EMPLOYMENT AND JOB OPENINGS

CONSTRUCTION

STATEWIDE (CONTD.)

	ESTIMATED MAY 1984 EMPLOYMENT	PERCENT OF MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	TOTAL JOB OPENINGS 1984-1988
Precision Production Occupations	2,017	2.2	2,451	570
Machinists	20	.0	22	2
Sheet Metal Workers	1,681	1.8	2,043	475
Boilermakers	123	.1	142	31
All Other Precision Metal Workers	1	.0	1	0
Cabinetmakers & Bench Carpenters	134	.1	175	48
All Other Precision Workers	58	.1	68	14
Machine Setters, Operatives, & Tenders	607	.5	740	177
Machine Tool Cutting Operators & Tenders - Metal & Plastic	14	.0	16	2
Metal Fabricators, Structural Metal Products	383	.4	465	109
All Other Metal & Plastic Machine Operators	5	.0	5	0
Crushing, Grinding, & Mixing Machine Operators	122	.1	149	37
All Machine Setters & Set-Up Operators	53	.0	70	23
All Other Machine Operators & Tenders	30	.0	35	6
Assemblers & Fabricators	991	1.0	1,234	326
Fitters, Structural Metal - Precision	85	.1	106	27
All Other Precision Assemblers, Metal	61	.1	78	21
Welders & Cutters	588	.6	741	202
Carpet Cutters, Diagrammers, & Seamers	45	.0	53	12
All Other Hand Workers	212	.2	256	64
Plant & System Occupations	43	.0	56	17
Transportation & Material Moving Workers	5,549	5.9	7,019	1,912
Truck Drivers, Heavy or Tractor Trailer	1,347	1.4	1,708	446
Truck Drivers, Light - Incl. Delivery & Route	388	.4	472	102
All Other Motor Vehicle Operators	23	.0	27	4
All Other Transportation & Related Workers	40	.0	52	15
Excavating & Loading Machine Operators	565	.6	703	193
Dragline Operators	31	.0	36	7
Grader, Dozer, & Scraper Operators	473	.5	574	148
Hoist & Winch Operators	9	.0	9	0
Crane & Tower Operators	53	.1	63	12
Industrial Truck & Tractor Operators	114	.1	142	34
Pump Operators	46	.0	53	10
Operating Engineers	2,439	2.6	3,155	936
All Other Material Moving Equipment Operators	21	.0	25	5
Helpers, Laborers, & Material Movers, Hand	15,865	16.9	20,257	5,725
Mechanic & Repairer Helpers	84	.1	104	26
Helpers - Brick & Stone Masons	1,893	2.0	2,333	540
Helpers - Carpenters & Related	2,874	3.1	3,843	1,126
Helpers - Electricians & Powerline Installers	988	1.2	1,205	327
Helpers - Painters, Paperhangers, & Plasterers	863	.9	1,062	240
Helpers - Plumbers, Pipefitters, & Steamfitters	1,305	1.2	1,586	350
Helpers - Roofers	427	.5	528	122
Helpers - All Other Construction Trades	703	.7	884	255
Helpers - Extractive Workers	35	.0	39	4
Freight, Stock, & Material Movers, Hand	264	.3	310	67
All Other Helpers & Laborers	6,429	6.9	8,363	2,668
TOTAL OF ALL OCCUPATIONS	93,770	100.0	117,849	33,494

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Management Support Workers
Compliance Officers & Enforcement Inspectors, Except Construction

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Other Office Machine Operators
Peripheral EDP Equipment Operators

ESTIMATED EMPLOYMENT AND JOB OPENINGS

CONSTRUCTION

STATEWIDE (CONTD.)

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Electrical Mechs./Installers/Repairers
Electric Home Appliance & Power Tool Repairers

All Other Extraction Workers, Exc. Helpers
Septic Tank Servicers & Sewer Pipe Cleaners
Blasters & Explosives Workers

All Other Metal & Plastic Machine Operators
Machine Forming Operators & Tenders - Metal & Plastic

All Other Machine Operators & Tenders
Sawing Machine Operators & Tenders
Floor Sanding Machine Operators

All Other Plant & System Operators
Stationary Engineers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

APACHE COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	16	17	1	0	1
Construction Managers	13	14	1	0	1
All Other Managers & Administrators	3	3	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	20	20	0	0	0
Electrical & Electronic Engineers	6	6	0	0	0
Mechanical Engineers	6	6	0	0	0
All Other Engineers	8	8	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	20	21	1	1	2
Secretaries	14	15	1	1	2
All Communication Equipment Operators	1	1	0	0	0
All Other Clerical & Administrative Support	5	5	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,558	1,721	163	144	307
First Line Managers/Supervisors - Construction Trades & Extraction Workers	9	9	0	0	0
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	5	5	0	0	0
Mobile Heavy Equip. Mechanics, Exc. Engines	34	37	3	1	4
Electrical Powerline Installers & Repairers	134	147	13	11	24
All Other Electrical Mechs./Installers/ Repairers	39	42	3	2	5
Riggers	68	74	6	7	13
All Other Mechanics, Installers, & Repairers	78	85	7	9	16
Carpenters	260	289	29	31	60
Electricians	360	396	36	34	70
Brick Masons	55	60	5	3	8
Pipelaying Fitters	86	94	8	8	16
Pipelayers	71	78	7	8	15
Structural Metal Workers	69	75	6	5	11
All Other Construction Trades Workers	5	6	1	0	1
Boilermakers	82	90	8	9	17
Welders & Cutters	65	71	6	6	12
All Motor Vehicle Operators	7	9	2	0	2
Operating Engineers	109	126	17	9	26
Helpers - Construction Trades	9	11	2	0	2
All Other Helpers & Laborers	13	17	4	1	5
TOTAL OF ALL OCCUPATIONS	1,614	1,779	165	145	310

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Engineers
Civil Engineers, Incl. Traffic

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Mechanics, Installers, & Repairers
Millwrights

All Motor Vehicle Operators
Truck Drivers, Heavy or Tractor Trailer

Helpers - Construction Trades
Helpers - Carpenters & Related

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

COCHISE COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	55	65	10	2	12
Financial Managers	7	8	1	0	1
Medicine & Health Services Managers	35	43	8	2	10
General Managers & Top Executives	13	14	1	0	1
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	25	29	4	1	5
Cost Estimators	15	17	2	1	3
All Other Management Support Workers	2	2	0	0	0
All Engineers	4	5	1	0	1
All Engineering & Related Technicians	4	5	1	0	1
SALES & RELATED OCCUPATIONS	12	14	2	1	3
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	91	105	14	9	23
Secretaries	35	42	7	5	12
Bookkeeping, Accounting, & Auditing Clerks	21	24	3	2	5
Payroll & Timekeeping Clerks	6	7	1	1	2
General Office Clerks	19	21	2	1	3
All Office Machine Operators	1	1	0	0	0
All Material Recording/Scheduling/Dist.	7	8	1	0	1
All Other Clerical & Administrative Support	2	2	0	0	0
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	3	4	1	0	1
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	763	937	174	36	210
First Line Managers/Supervisors - Construction Trades & Extraction Workers	28	33	5	0	5
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	33	41	8	2	10
All Other Mechanics, Installers, & Repairers	12	14	2	0	2
Carpenters	96	130	34	10	44
Drywall Installers	37	45	8	1	9
Tapers	34	41	7	3	10
Electricians	57	70	13	5	18
Brick Masons	31	38	7	1	8
Concrete & Terrazzo Finishers	56	71	15	1	16
Plasterers & Stucco Masons	26	32	6	1	7
Painters & Paperhangers - Construction & Maintenance	32	39	7	3	10
Plumbers, Pipefitters, & Steamfitters	36	44	8	3	11
Roofers	16	20	4	0	4
Structural Metal Workers	8	9	1	0	1
All Other Construction Trades Workers	15	16	1	0	1
All Extraction Workers, Exc. Helpers	7	7	0	0	0
Sheet Metal Workers	35	43	8	2	10
All Hand Workers	4	4	0	0	0
All Motor Vehicle Operators	1	1	0	0	0
All Material Moving Equipment Operators	4	4	0	0	0
Helpers - Brick & Stone Masons	48	59	11	1	12
Helpers - Carpenters & Related	51	63	12	0	12
Helpers - Electricians & Powerline Installers	18	22	4	2	6
Helpers - Painters, Paperhangers, & Plasterers	14	16	2	0	2
Helpers - Plumbers, Pipefitters, & Steamfitters	14	17	3	0	3
Helpers - All Other Construction Trades	25	30	5	1	6
All Other Freight & Material Movers, Hand	5	5	0	0	0
All Other Helpers & Laborers	20	23	3	0	3
TOTAL OF ALL OCCUPATIONS	949	1,154	205	49	254

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows.

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

COCHISE COUNTY (CONTD.)

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Material Recording/Scheduling/Dist.
Dispatchers - Exc. Police, Fire, & Ambulance

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Mechanics, Installers, & Repairers
Automotive Mechanics

All Other Construction Trades Workers
Glaziers

Helpers - All Other Construction Trades
Helpers - Roofers
Helpers - Extractive Workers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

COCONINO COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	98	114	16	5	21
Financial Managers	20	21	1	0	1
Construction Managers	56	68	12	4	16
General Managers & Top Executives	22	25	3	1	4
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	26	28	2	1	3
Accountants & Auditors	6	6	0	0	0
Cost Estimators	16	18	2	1	3
All Engineers	3	3	0	0	0
All Engineering & Related Technicians	1	1	0	0	0
SALES & RELATED OCCUPATIONS	10	10	0	0	0
Sales Representatives, Exc. Retail	5	5	0	0	0
All Other Sales & Related Workers	5	5	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	96	112	16	9	25
Secretaries	38	47	9	6	15
Bookkeeping, Accounting, & Auditing Clerks	16	17	1	1	2
General Office Clerks	20	22	2	1	3
All Material Recording/Scheduling/Dist.	14	17	3	1	4
All Other Clerical & Administrative Support	8	9	1	0	1
SERVICE OCCUPATIONS	7	8	1	0	1
Janitors & Cleaners, Exc. Maids & Housekeeping	7	8	1	0	1
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,131	1,392	261	70	331
First Line Managers/Supervisors - Construction Trades & Extraction Workers	32	37	5	0	5
Maintenance Repairers, General Utility	5	5	0	0	0
Automotive Mechanics	8	9	1	0	1
Mobile Heavy Equip. Mechanics, Exc. Engines	11	11	0	0	0
All Other Mechanics, Installers, & Repairers	10	10	0	0	0
Carpenters	190	255	65	23	88
Drywall Installers	13	16	3	0	3
Electricians	62	78	16	6	22
Brick Masons	38	48	10	3	13
Concrete & Terrazzo Finishers	23	29	6	1	7
Plasterers & Stucco Masons	26	32	6	1	7
Painters & Paperhangers - Construction & Maintenance	60	77	17	7	24
Plumbers, Pipefitters, & Steamfitters	60	74	14	5	19
Roofers	52	65	13	2	15
Glaziers	10	12	2	0	2
Structural Metal Workers	14	18	4	0	4
All Other Construction Trades Workers	24	24	0	0	0
All Other Precision Metal Workers	12	13	1	0	1
All Precision Woodworkers	1	1	0	0	0
All Machine Operators & Tenders	4	4	0	0	0
Welders & Cutters	21	23	2	1	3
All Plant & System Operators	2	2	0	0	0
Truck Drivers, Heavy or Tractor Trailer	58	65	7	3	10
Truck Drivers, Light - Incl. Delivery & Route	7	7	0	0	0
Excavating & Loading Machine Operators	11	11	0	0	0
Grader, Dozer, & Scraper Operators	27	29	2	1	3
Operating Engineers	64	72	8	5	13
Helpers - Brick & Stone Masons	21	26	5	0	5
Helpers - Carpenters & Related	129	175	46	6	52
Helpers - Electricians & Powerline Installers	11	13	2	1	3
Helpers - Painters, Paperhangers, & Plasterers	28	34	6	1	7
Helpers - Plumbers, Pipefitters, & Steamfitters	20	25	5	0	5
Helpers - Roofers	15	20	5	0	5
Helpers - All Other Construction Trades	7	8	1	0	1
All Freight & Material Movers, Hand	4	4	0	0	0
All Other Helpers & Laborers	51	60	9	4	13
TOTAL OF ALL OCCUPATIONS	1,368	1,664	296	85	381

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

COCONINO COUNTY (CONTD.)

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Material Recording/Scheduling/Dist.
Dispatchers - Exc. Police, Fire, & Ambulance

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Construction Trades Workers
Pipelayers
Air Hammer Operators

All Other Precision Metal Workers
Sheet Metal Workers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

GILA COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	55	64	9	3	12
Construction Managers	23	29	6	2	8
General Managers & Top Executives	28	31	3	1	4
All Other Managers & Administrators	4	4	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	2	2	0	0	0
All Financial Specialists	1	1	0	0	0
All Other Management Support Workers	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	22	26	4	2	6
Secretaries	9	11	2	1	3
General Office Clerks	12	14	2	1	3
All Other Clerical & Administrative Support	1	1	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	208	259	51	11	62
First Line Managers/Supervisors - Construction Trades & Extraction Workers	5	5	0	0	0
All Mechanics, Installers, & Repairers	10	11	1	0	1
Carpenters	51	70	19	6	25
Electricians	36	45	9	2	11
Structural Metal Workers	14	16	2	0	2
All Other Construction Trades Workers	1	1	0	0	0
All Extraction Workers, Exc. Helpers	1	1	0	0	0
Sheet Metal Workers	23	27	4	1	5
Boilermakers	5	6	1	0	1
All Motor Vehicle Operators	4	4	0	0	0
Excavating & Loading Machine Operators	5	5	0	0	0
Operating Engineers	6	6	0	0	0
All Material Moving Equipment Operators	4	4	0	0	0
Helpers - Carpenters & Related	34	47	13	2	15
Helpers - All Other Construction Trades	3	4	1	0	1
All Other Helpers & Laborers	6	7	1	0	1
TOTAL OF ALL OCCUPATIONS	287	351	64	16	80

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Mechanics, Installers, & Repairers
Heating, Air Conditioning, & Refrigeration
Mechanics & Installers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
MANUFACTURING

GRAHAM & GREENLEE COUNTIES

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	8	8	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	1	1	0	0	0
SALES & RELATED OCCUPATIONS	1	1	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	6	6	0	0	0
Secretaries	2	2	0	0	0
All Other Clerical & Administrative Support	4	4	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	84	89	5	0	5
All First Line Managers/Supervisors - Maintenance/Production/Construction	6	6	0	0	0
All Electrical Mechs./Installers/Repairers	2	2	0	0	0
All Other Mechanics, Installers, & Repairers	14	15	1	0	1
Electricians	7	8	1	0	1
All Other Construction Trades Workers	14	16	2	0	2
All Precision Metal Workers	2	2	0	0	0
All Machine Operators & Tenders	2	2	0	0	0
All Motor Vehicle Operators	8	8	0	0	0
All Material Moving Equipment Operators	15	16	1	0	1
All Freight & Material Movers, Hand	1	1	0	0	0
All Helpers & Laborers	13	13	0	0	0
TOTAL OF ALL OCCUPATIONS	100	105	5	0	5

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

MANAGERIAL & ADMINISTRATIVE OCCUPATIONS

General Managers & Top Executives

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All First Line Managers/Supervisors - Maintenance/Production/Construction
First Line Managers/Supervisors - Construction Trades & Extraction Workers

All Other Mechanics, Installers, & Repairers
Heating, Air Conditioning, & Refrigeration Mechanics & Installers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Motor Vehicle Operators
Truck Drivers, Heavy or Tractor Trailer

All Material Moving Equipment Operators
Excavating & Loading Machine Operators
Grader, Dozer, & Scraper Operators

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MARICOPA COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	4,391	5,560	1,169	520	1,689
Financial Managers	491	620	129	55	184
Personnel, Training, & Labor Relations Mgrs.	14	16	2	0	2
Purchasing Managers	7	8	1	0	1
Marketing, Advertising, & Public Rel. Mgrs.	55	72	17	5	22
Administrative Services Managers	53	67	14	3	17
Construction Managers	1,580	2,021	441	178	619
General Managers & Top Executives	2,064	2,589	525	263	788
All Other Managers & Administrators	127	167	40	16	56
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	3,124	3,972	848	383	1,231
Accountants & Auditors	290	372	82	38	120
Budget Analysts	33	43	10	4	14
All Other Financial Specialists	18	23	5	1	6
Purchasing Agents, Exc. Wholesale, Retail, & Farm	139	173	34	13	47
Personnel, Training, & Labor Rel. Specialists	7	7	0	0	0
Cost Estimators	1,052	1,315	263	230	493
Construction & Building Inspectors	37	46	9	5	14
All Other Management Support Workers	64	83	19	7	26
Civil Engineers, Incl. Traffic	130	170	40	14	54
Electrical & Electronic Engineers	290	383	93	17	110
Safety Engineers, Exc. Mining	23	29	6	0	6
Mechanical Engineers	328	429	101	19	120
All Other Engineers	162	216	54	10	64
Architects, Exc. Landscape & Marine	27	33	6	2	8
Landscape Architects	11	14	3	1	4
Surveying & Mapping Scientists	22	29	7	1	8
Civil Engineering Technicians & Technologists	12	15	3	0	3
Electrical/Electronic Engineering Technicians	86	105	19	4	23
Drafters	213	261	48	14	62
Surveying & Mapping Techs.	14	17	3	0	3
All Other Engineering & Related Technicians	47	60	13	1	14
All Physical Scientists	1	1	0	0	0
Systems Analysts, Electronic Data Processing	19	24	5	0	5
Computer Programmers	24	29	5	0	5
Computer Programmer Aides	7	9	2	0	2
All Social Scientists	3	3	0	0	0
All Health Professionals, Paraprofessionals & Technicians	5	6	1	0	1
Interior Designers	13	17	4	0	4
All Other Professional, Paraprofessional, & Technical Workers	47	60	13	2	15
SALES & RELATED OCCUPATIONS	1,303	1,641	338	194	532
First Line Supervisors & Managers - Sales	56	69	13	6	19
Sales Engineers	52	64	12	0	12
Sales Representatives, Scientific & Related Products & Services, Exc. Retail	48	58	10	4	14
Other Sales Representatives, Exc. Retail	935	1,176	241	153	394
All Other Sales & Related Workers	212	274	62	31	93
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	5,503	6,906	1,403	1,082	2,485
First Line Supers.-Clerical & Admin. Support	140	174	34	15	49
Secretaries	1,887	2,408	521	447	968
Receptionists & Information Clerks	135	170	35	24	59
Typists	143	179	36	36	72
Typists, Word Processing Equipment	70	87	17	5	22
Personnel Clerks, Exc. Payroll & Timekeeping	11	12	1	0	1
File Clerks	38	47	9	8	17
Procurement Clerks	23	26	3	0	3
Bookkeeping, Accounting, & Auditing Clerks	1,268	1,591	323	252	575
Payroll & Timekeeping Clerks	231	286	55	38	93
Billing, Cost & Rate Clerks	25	30	5	2	7

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MARICOPA COUNTY (CONTD.)

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
General Office Clerks	866	1,086	220	190	410
Billing, Posting, & Calculating Machine Opers.	8	9	1	0	1
Computer Operators, Exc. Peripheral Equipment	32	40	8	1	9
Peripheral EDP Equipment Operators	6	7	1	1	2
Data Entry Keyers, Exc. Composing	37	43	6	0	6
All Other Office Machine Operators	3	3	0	0	0
Switchboard Operators	115	140	25	28	53
Dispatchers - Exc. Police, Fire, & Ambulance	67	79	12	2	14
Production, Planning, & Expediting Clerks	36	46	10	5	15
Stock Clerks - Stockroom, Warehouse, or Yard	267	320	53	25	78
Traffic, Shipping, & Receiving Clerks	13	16	3	1	4
All Other Material Recording/Scheduling/Dist.	4	4	0	0	0
All Other Clerical & Administrative Support	78	103	25	2	27
SERVICE OCCUPATIONS	507	667	160	73	233
First Line Supers. & Mgrs./Supers. - Service	36	46	10	5	15
Guards & Watch Guards	108	143	35	5	40
All Other Protective Service Workers	28	32	4	3	7
Food & Beverage Service Occupations	120	163	43	21	64
Janitors & Cleaners, Exc. Maids & Housekeeping	140	183	43	24	67
All Other Cleaning/Building Service, Exc. Private House	32	43	11	6	17
All Other Service Workers	43	57	14	9	23
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	426	570	144	76	220
Gardeners & Groundskeepers, Exc. Farm	337	449	112	66	178
All Other Agri., Forestry, Fishing, & Related	89	121	32	10	42
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	51,094	63,191	12,097	4,685	16,782
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	70	84	14	6	20
First Line Managers/Supervisors - Construction Trades & Extraction Workers	2,780	3,551	771	284	1,055
First Line Mgrs./Supers. - Transport. Operatives	13	16	3	1	4
First Line Mgrs./Supers. - Laborers & Helpers	29	37	8	3	11
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	9	10	1	1	2
All Inspectors, Testers, & Related	271	361	90	31	121
Millwrights	125	162	37	15	52
Machinery Maintenance Workers	41	48	7	3	10
Maintenance Repairers, General Utility	616	755	139	52	191
Automotive Mechanics	134	162	28	6	34
Bus & Truck Mechs., & Diesel Eng. Specialists	126	160	34	8	42
Mobile Heavy Equip. Mechanics, Exc. Engines	190	241	51	8	59
Telephone & Cable TV Line Installers/Repairers	282	344	62	16	78
All Other Electrical Mechs./Installers/Repairers	107	125	18	6	24
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	1,209	1,438	229	111	340
Installers/Repairers - Manufactured Buildings	24	28	4	0	4
All Other Mechanics, Installers, & Repairers	359	424	65	29	94
Carpenters	6,398	8,074	1,676	841	2,517
Ceiling Tile Installers/Accoustical Carpenters	165	196	31	9	40
Drywall Installers	1,344	1,609	265	66	331
Tapers	1,074	1,282	208	123	331
Lathers	670	796	126	47	173
Electricians	3,281	4,006	725	324	1,049
Brick Masons	1,612	1,944	332	130	462
Stone Masons	78	94	16	5	21
Hard Tile Setters	340	406	66	27	93
Concrete & Terrazzo Finishers	1,956	2,419	463	137	600
Reinforcing Metal Workers	239	286	47	26	73
Plasterers & Stucco Masons	976	1,163	187	53	240
Painters & Paperhangers - Construction & Maintenance	1,860	2,239	379	235	614

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MARICOPA COUNTY (CONTD.)

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
Plumbers, Pipefitters, & Steamfitters	2,892	3,546	654	297	951
Pipelaying Fitters	24	30	6	2	8
Pipelayers	477	629	152	55	207
Carpet Installers	47	56	9	2	11
Floor Layers, Exc. Carpet, Wood, & Hard Tiles	40	47	7	1	8
Air Hammer Operators	84	101	17	9	26
Paving, Surfacing, & Tamping Equip. Opers.	271	335	64	29	93
Insulation Workers	577	686	109	22	131
Roofers	1,777	2,132	355	93	448
Glaziers	368	438	70	35	105
Structural Metal Workers	530	645	115	38	153
Fence Erectors	374	449	75	42	117
All Other Construction Trades Workers	213	264	51	11	62
Earth Drillers, Exc. Oil & Gas	56	65	9	3	12
All Other Extraction Workers, Exc. Helpers	51	60	9	2	11
Machinists	12	13	1	0	1
Sheet Metal Workers	1,210	1,439	229	84	313
Boilermakers	36	46	10	3	13
All Other Precision Metal Workers	1	1	0	0	0
Cabinetmakers & Bench Carpenters	88	116	28	6	34
All Other Precision Workers	58	68	10	4	14
Machine Tool Cutting Operators & Tenders - Metal & Plastic	14	16	2	0	2
Metal Fabricators, Structural Metal Products	301	357	56	22	78
All Other Metal & Plastic Machine Operators	5	5	0	0	0
Crushing, Grinding, & Mixing Machine Operators	77	94	17	7	24
All Other Machine Operators & Tenders	24	27	3	1	4
Fitters, Structural Metal - Precision	32	37	5	2	7
All Other Precision Assemblers, Metal	46	58	12	3	15
Welders & Cutters	437	568	131	39	170
All Other Hand Workers	186	218	32	18	50
All Plant & System Operators	39	52	13	4	17
Truck Drivers, Heavy or Tractor Trailer	787	1,025	238	56	294
Truck Drivers, Light - Incl. Delivery & Route	267	323	56	15	71
All Other Motor Vehicle Operators	23	27	4	0	4
All Other Transportation & Related Workers	32	43	11	3	14
Excavating & Loading Machine Operators	421	536	115	47	162
Dragline Operators	14	16	2	1	3
Grader, Dozer, & Scraper Operators	278	347	69	32	101
Crane & Tower Operators	44	53	9	2	11
Industrial Truck & Tractor Operators	83	106	23	5	28
Pump Operators	38	44	6	3	9
Operating Engineers	1,592	2,092	500	151	651
All Other Material Moving Equipment Operators	5	5	0	0	0
Mechanic & Repairer Helpers	76	96	20	6	26
Helpers - Brick & Stone Masons	1,368	1,654	286	77	363
Helpers - Carpenters & Related	1,912	2,514	602	110	712
Helpers - Electricians & Powerline Installers	797	959	162	90	252
Helpers - Painters, Paperhangers, & Plasterers	575	691	116	31	147
Helpers - Plumbers, Pipefitters, & Steamfitters	1,046	1,252	206	59	265
Helpers - Roofers	269	320	51	15	66
Helpers - All Other Construction Trades	487	599	112	54	166
Freight, Stock, & Material Movers, Hand	210	247	37	20	57
All Other Helpers & Laborers	4,045	5,184	1,139	471	1,610
TOTAL OF ALL OCCUPATIONS	66,348	82,507	16,159	7,013	23,172

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Engineers
Industrial Engineers, Exc. Safety

All Other Engineering & Related Technicians
Mechanical Engineering Techs.

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MARICOPA COUNTY (CONTD.)

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Inspectors, Testers, & Related
Precision Inspectors, Testers, & Graders
Production Inspectors, Testers, & Graders

All Other Electrical Mechs./Installers/Repairers
Electrical Powerline Installers & Repairers

All Other Mechanics, Installers, & Repairers
Elevator Installers & Repairers

All Other Extraction Workers, Exc. Helpers
Septic Tank Servicers & Sewer Pipe Cleaners
Floor Sanding Machine Operators
Blasters & Explosives Workers

All Other Metal & Plastic Machine Operators
Machine Forming Operators & Tenders - Metal & Plastic

All Other Hand Workers
Carpet Cutters, Diagrammers, & Seamers

All Plant & System Operators
Stationary Engineers

All Other Material Moving Equipment Operators
Hoist & Winch Operators

All Other Helpers & Laborers
Helpers - Extractive Workers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MOHAVE COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	97	113	16	5	21
Construction Managers	43	52	9	2	11
General Managers & Top Executives	44	49	5	3	8
All Other Managers & Administrators	10	12	2	0	2
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	12	12	0	0	0
Cost Estimators	8	8	0	0	0
All Other Management Support Workers	2	2	0	0	0
All Engineering & Related Technicians	2	2	0	0	0
SALES & RELATED OCCUPATIONS	21	25	4	2	6
Sales Representatives, Exc. Retail	21	25	4	2	6
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	128	151	23	17	40
Secretaries	67	79	12	10	22
Bookkeeping, Accounting, & Auditing Clerks	16	19	3	2	5
General Office Clerks	29	34	5	4	9
Stock Clerks - Stockroom, Warehouse, or Yard	14	17	3	1	4
All Other Clerical & Administrative Support	2	2	0	0	0
SERVICE OCCUPATIONS	4	5	1	0	1
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	885	1,075	190	44	234
First Line Managers/Supervisors - Construction Trades & Extraction Workers	38	43	5	0	5
Mobile Heavy Equip. Mechanics, Exc. Engines	9	9	0	0	0
All Electrical Mechs./Installers/Repairers	15	16	1	0	1
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	71	86	15	5	20
All Other Mechanics, Installers, & Repairers	19	22	3	1	4
Carpenters	78	105	27	9	36
Drywall Installers	101	125	24	5	29
Tapers	34	41	7	3	10
Lathers	13	16	3	0	3
Electricians	44	52	8	2	10
Concrete & Terrazzo Finishers	45	57	12	2	14
Painters & Paperhangers - Construction & Maintenance	23	29	6	2	8
Plumbers, Pipefitters, & Steamfitters	58	72	14	6	20
All Other Construction Trades Workers	82	99	17	3	20
All Extraction Workers, Exc. Helpers	1	1	0	0	0
All Precision Metal Workers	14	17	3	1	4
All Precision Woodworkers	7	9	2	0	2
Solderers & Brazers	8	9	1	0	1
All Other Hand Workers	2	2	0	0	0
Truck Drivers, Heavy or Tractor Trailer	25	28	3	0	3
All Other Motor Vehicle Operators	8	9	1	0	1
Excavating & Loading Machine Operators	9	9	0	0	0
Operating Engineers	37	44	7	1	8
All Other Material Moving Equipment Operators	6	6	0	0	0
Helpers - Carpenters & Related	42	56	14	1	15
Helpers - Painters, Paperhangers, & Plasterers	23	28	5	0	5
Helpers - Plumbers, Pipefitters, & Steamfitters	11	13	2	0	2
Helpers - All Other Construction Trades	9	9	0	0	0
All Freight & Material Movers, Hand	5	6	1	0	1
All Other Helpers & Laborers	48	57	9	3	12
TOTAL OF ALL OCCUPATIONS	1,147	1,381	234	68	302

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

MOHAVE COUNTY (CONTD.)

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Electrical Mechs./Installers/Repairers
Telephone & Cable TV Line Installers/Repairers
Electrical Powerline Installers & Repairers

All Other Mechanics, Installers, & Repairers
Millwrights
Maintenance Repairers, General Utility

All Other Construction Trades Workers
Brick Masons
Plasterers & Stucco Masons
Insulation Workers
Roofers
Glaziers
Fence Erectors

All Precision Metal Workers
Sheet Metal Workers
Fitters, Structural Metal - Precision

All Precision Woodworkers
Cabinetmakers & Bench Carpenters

All Other Precision Assemblers, Metal

All Other Motor Vehicle Operators
Truck Drivers, Light - Incl. Delivery & Route

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

NAVAJO COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	69	81	12	2	14
Construction Managers	27	32	5	1	6
General Managers & Top Executives	38	44	6	1	7
All Other Managers & Administrators	4	5	1	0	1
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	8	9	1	0	1
All Financial Specialists	4	5	1	0	1
All Engineers	4	4	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	49	56	7	4	11
Secretaries	10	10	0	0	0
Bookkeeping, Accounting, & Auditing Clerks	21	27	6	3	9
General Office Clerks	16	17	1	1	2
All Other Clerical & Administrative Support	2	2	0	0	0
SERVICE OCCUPATIONS	4	5	1	0	1
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	548	676	128	31	159
First Line Managers/Supervisors - Construction Trades & Extraction Workers	14	16	2	0	2
All Electrical Mechs./Installers/Repairers	6	6	0	0	0
All Other Mechanics, Installers, & Repairers	38	42	4	1	5
Carpenters	81	111	30	9	39
Electricians	23	28	5	2	7
Brick Masons	6	7	1	0	1
Concrete & Terrazzo Finishers	11	12	1	0	1
All Other Construction Trades Workers	63	74	11	1	12
All Precision Metal Workers	6	7	1	0	1
All Machine Operators & Tenders	3	3	0	0	0
All Hand Workers	1	1	0	0	0
Truck Drivers, Heavy or Tractor Trailer	70	80	10	3	13
Operating Engineers	83	103	20	6	26
All Other Material Moving Equipment Operators	3	3	0	0	0
Helpers - Carpenters & Related	57	78	21	3	24
Helpers - All Other Construction Trades	11	13	2	0	2
All Other Helpers & Laborers	72	92	20	6	26
TOTAL OF ALL OCCUPATIONS	678	827	149	37	186

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Electrical Mechs./Installers/Repairers
- Telephone & Cable TV Line Installers/Repairers

All Other Mechanics, Installers, & Repairers
- Maintenance Repairers, General Utility
- Automotive Mechanics
- Mobile Heavy Equip. Mechanics, Exc. Engines
- Installers/Repairers - Manufactured Buildings

All Other Construction Trades Workers
- Drywall Installers
- Tapers
- Plumbers, Pipefitters, & Steamfitters
- Roofers

All Precision Metal Workers
- Sheet Metal Workers

Helpers - All Other Construction Trades
- Helpers - Brick & Stone Masons

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

PIMA COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	1,331	1,821	490	144	634
Financial Managers	138	186	48	12	60
Personnel, Training, & Labor Relations Mgrs.	8	10	2	0	2
Marketing, Advertising, & Public Rel. Mgrs.	9	11	2	0	2
Administrative Services Managers	27	37	10	2	12
Construction Managers	586	805	219	63	282
General Managers & Top Executives	522	716	194	63	257
All Other Managers & Administrators	41	56	15	4	19
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	577	759	182	79	261
Accountants & Auditors	63	82	19	5	24
All Other Financial Specialists	5	6	1	0	1
Purchasing Agents, Exc. Wholesale, Retail, & Farm	37	48	11	2	13
Cost Estimators	316	423	107	66	173
All Other Management Support Workers	20	26	6	1	7
Civil Engineers, Incl. Traffic	25	33	8	3	11
Mechanical Engineers	17	22	5	0	5
All Other Engineers	2	2	0	0	0
Drafters	58	77	19	2	21
All Other Engineering & Related Technicians	15	18	3	0	3
Systems Analysts, Electronic Data Processing	5	6	1	0	1
Computer Programmers	5	5	0	0	0
All Other Professional, Paraprofessional, & Technical Workers	9	11	2	0	2
SALES & RELATED OCCUPATIONS	293	394	101	39	140
First Line Supervisors & Managers - Sales	7	9	2	0	2
Sales Engineers	11	15	4	0	4
Sales Representatives, Scientific & Related Products & Services, Exc. Retail	14	19	5	1	6
Other Sales Representatives, Exc. Retail	232	313	81	34	115
All Other Sales & Related Workers	29	38	9	4	13
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	1,545	2,053	508	275	783
First Line Supers.-Clerical & Admin. Support	41	50	9	1	10
Secretaries	489	664	175	113	288
Receptionists & Information Clerks	43	55	12	5	17
Typists	32	38	6	5	11
Typists, Word Processing Equipment	5	5	0	0	0
Procurement Clerks	6	7	1	0	1
Bookkeeping, Accounting, & Auditing Clerks	365	488	123	70	193
Payroll & Timekeeping Clerks	64	82	18	6	24
General Office Clerks	316	429	113	68	181
Computer Operators, Exc. Peripheral Equipment	9	11	2	0	2
All Other Office Machine Operators	10	12	2	1	3
Switchboard Operators	6	6	0	0	0
Dispatchers - Exc. Police, Fire, & Ambulance	16	18	2	0	2
Production, Planning, & Expediting Clerks	6	8	2	0	2
Stock Clerks - Stockroom, Warehouse, or Yard	70	89	19	5	24
All Other Material Recording/Scheduling/Dist.	3	3	0	0	0
All Other Clerical & Administrative Support	64	88	24	1	25
SERVICE OCCUPATIONS	80	104	24	7	31
First Line Supers. & Mgrs./Supers. - Service	8	9	1	0	1
Guards & Watch Guards	23	30	7	1	8
All Other Protective Service Workers	2	2	0	1	1
Janitors & Cleaners, Exc. Maids & Housekeeping	46	62	16	5	21
All Other Cleaning/Building Service, Exc.	1	1	0	0	0
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	88	125	37	14	51
Gardeners & Groundskeepers, Exc. Farm	75	106	31	13	44
All Other Agri., Forestry, Fishing, & Related	13	19	6	1	7

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

PIMA COUNTY (CONTD.)

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	14,020	18,762	4,742	1,261	6,003
First Line Managers/Supervisors - Mechanics/ Installers/Repairers	14	17	3	0	3
First Line Managers/Supervisors - Construction Trades & Extraction Workers	741	1,007	266	73	339
First Line Mgrs./Supers. - Laborers & Helpers	7	7	0	0	0
All Other First Line Managers/Supervisors - Maintenance/Production/Construction	13	15	2	1	3
All Inspectors, Testers, & Related	1	1	0	0	0
Machinery Maintenance Workers	14	16	2	1	3
Maintenance Repairers, General Utility	119	159	40	8	48
Automotive Mechanics	40	49	9	0	9
Bus & Truck Mechs., & Diesel Eng. Specialists	41	50	9	2	11
Mobile Heavy Equip. Mechanics, Exc. Engines	90	110	20	3	23
Telephone & Cable TV Line Installers/Repairers	30	37	7	0	7
Electrical Powerline Installers & Repairers	72	89	17	5	22
All Other Electrical Mechs./Installers/Repairers	24	31	7	2	9
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	414	552	138	39	177
All Other Mechanics, Installers, & Repairers	81	106	25	6	31
Carpenters	1,492	2,092	600	198	798
Ceiling Tile Installers/Accoustical Carpenters	35	46	11	1	12
Drywall Installers	343	457	114	17	131
Tapers	240	319	79	28	107
Lathers	92	122	30	6	36
Electricians	788	1,051	263	77	340
Brick Masons	308	411	103	24	127
Stone Masons	115	155	40	8	48
Hard Tile Setters	131	173	42	10	52
Concrete & Terrazzo Finishers	552	744	192	39	231
Plasterers & Stucco Masons	138	183	45	6	51
Painters & Paperhangers - Construction & Maintenance	458	612	154	58	212
Plumbers, Pipefitters, & Steamfitters	727	967	240	74	314
Pipelayers	109	133	24	11	35
Carpet Installers	58	77	19	3	22
Floor Layers, Exc. Carpet, Wood, & Hard Tiles	37	49	12	1	13
Air Hammer Operators	52	64	12	6	18
Paving, Surfacing, & Tamping Equip. Opers.	129	166	37	13	50
Insulation Workers	67	89	22	2	24
Sheet Metal Duct Installers	7	9	2	0	2
Roofers	523	700	177	26	203
Glaziers	88	117	29	8	37
Structural Metal Workers	84	114	30	5	35
Fence Erectors	136	181	45	16	61
All Other Construction Trades Workers	28	37	9	2	11
Earth Drillers, Exc. Oil & Gas	25	31	6	1	7
All Other Extraction Workers, Exc. Helpers	6	8	2	0	2
Sheet Metal Workers	308	409	101	22	123
Cabinetmakers & Bench Carpenters	26	34	8	1	9
Metal Fabricators, Structural Metal Products	80	106	26	5	31
Crushing, Grinding, & Mixing Machine Operators	36	46	10	3	13
All Machine Setters & Set-Up Operators	53	70	17	6	23
All Other Machine Operators & Tenders	6	8	2	0	2
Fitters, Structural Metal - Precision	45	60	15	4	19
All Other Precision Assemblers, Metal	15	20	5	1	6
Welders & Cutters	53	66	13	3	16
All Other Hand Workers	69	89	20	6	26
Truck Drivers, Heavy or Tractor Trailer	331	427	96	22	118
Truck Drivers, Light - Incl. Delivery & Route	85	110	25	3	28
All Other Transportation & Related Workers	8	9	1	0	1
Excavating & Loading Machine Operators	80	100	20	7	27
Grader, Dozer, & Scraper Operators	130	158	28	14	42
Crane & Tower Operators	9	10	1	0	1

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

PIMA COUNTY (CONTD.)

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
Industrial Truck & Tractor Operators	28	33	5	1	6
Operating Engineers	434	573	139	41	180
All Other Material Moving Equipment Operators	42	49	7	2	9
Helpers - Brick & Stone Masons	327	437	110	18	128
Helpers - Carpenters & Related	545	771	226	31	257
Helpers - Electricians & Powerline Installers	140	186	46	16	62
Helpers - Painters, Paperhangers, & Plasterers	203	269	66	9	75
Helpers - Plumbers, Pipefitters, & Steamfitters	194	256	62	10	72
Helpers - Roofers	121	164	43	6	49
Helpers - All Other Construction Trades	185	249	64	19	83
Freight, Stock, & Material Movers, Hand	33	41	8	1	9
All Other Helpers & Laborers	1,965	2,659	694	230	924
TOTAL OF ALL OCCUPATIONS	17,934	24,018	6,084	1,819	7,903

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Other Engineering & Related Technicians
Electrical/Electronic Engineering Technicians

CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS

All Other Office Machine Operators
Billing, Posting, & Calculating Machine Opers.

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Electrical Mechs./Installers/Repairers
Electric Home Appliance & Power Tool Repairers

All Other Mechanics, Installers, & Repairers
Millwrights
Installers/Repairers - Manufactured Buildings

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Other Construction Trades Workers
Reinforcing Metal Workers

All Other Extraction Workers, Exc. Helpers
Blasters & Explosives Workers

All Other Machine Operators & Tenders
Sawing Machine Operators & Tenders

All Other Material Moving Equipment Operators
Dragline Operators

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

PINAL COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	82	97	15	3	18
Financial Managers	10	11	1	0	1
Construction Managers	32	40	8	1	9
General Managers & Top Executives	22	24	2	0	2
All Other Managers & Administrators	18	22	4	2	6
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	17	18	1	0	1
Cost Estimators	7	7	0	0	0
All Other Management Support Workers	2	2	0	0	0
All Engineers	2	2	0	0	0
All Engineering & Related Technicians	6	7	1	0	1
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	59	64	5	3	8
Secretaries	28	31	3	2	5
Bookkeeping, Accounting, & Auditing Clerks	18	20	2	1	3
General Office Clerks	11	11	0	0	0
All Other Clerical & Administrative Support	2	2	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	472	575	103	32	135
First Line Managers/Supervisors - Construction Trades & Extraction Workers	14	14	0	0	0
All Electrical Mechs./Installers/Repairers	6	7	1	0	1
All Other Mechanics, Installers, & Repairers	12	13	1	0	1
Carpenters	107	143	36	13	49
Electricians	10	12	2	1	3
Brick Masons	6	6	0	0	0
Roofers	10	11	1	0	1
All Other Construction Trades Workers	88	104	16	6	22
All Extraction Workers, Exc. Helpers	11	12	1	0	1
All Precision Metal Workers	7	8	1	0	1
All Hand Workers	1	1	0	0	0
Truck Drivers, Heavy or Tractor Trailer	27	29	2	1	3
Excavating & Loading Machine Operators	8	8	0	0	0
Grader, Dozer, & Scraper Operators	7	7	0	0	0
Operating Engineers	67	87	20	5	25
Helpers - All Other Construction Trades	17	19	2	0	2
All Other Helpers & Laborers	74	94	20	6	26
TOTAL OF ALL OCCUPATIONS	630	754	124	38	162

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Electrical Mechs./Installers/Repairers
- Telephone & Cable TV Line Installers/Repairers

All Other Mechanics, Installers, & Repairers
- Heating, Air Conditioning, & Refrigeration Mechanics & Installers

All Other Construction Trades Workers
- Reinforcing Metal Workers
- Painters & Paperhangers - Construction & Maintenance
- Plumbers, Pipefitters, & Steamfitters
- Structural Metal Workers

All Extraction Workers, Exc. Helpers
- Earth Drillers, Exc. Oil & Gas

All Precision Metal Workers
- Sheet Metal Workers

Helpers - All Other Construction Trades
- Helpers - Electricians & Powerline Installers
- Helpers - Painters, Paperhangers, & Plasterers

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

SANTA CRUZ COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	28	35	7	1	8
Financial Managers	7	9	2	0	2
Construction Managers	10	13	3	1	4
General Managers & Top Executives	11	13	2	0	2
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	2	2	0	0	0
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	16	18	2	0	2
Secretaries	8	9	1	0	1
Bookkeeping, Accounting, & Auditing Clerks	6	7	1	0	1
All Other Clerical & Administrative Support	2	2	0	0	0
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	124	153	29	5	34
All First Line Managers/Supervisors - Maintenance/Production/Construction	3	3	0	0	0
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	8	9	1	0	1
All Other Mechanics, Installers, & Repairers	1	1	0	0	0
Carpenters	32	41	9	2	11
Brick Masons	17	21	4	1	5
All Other Construction Trades Workers	17	19	2	1	3
All Precision Metal Workers	9	11	2	0	2
All Material Moving Equipment Operators	3	4	1	0	1
Helpers - All Other Construction Trades	12	15	3	0	3
All Other Helpers & Laborers	22	29	7	1	8
TOTAL OF ALL OCCUPATIONS	170	208	38	6	44

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Construction Trades Workers
- Painters & Paperhangers - Construction & Maintenance
- Glaziers

All Precision Metal Workers
- Sheet Metal Workers

Helpers - All Other Construction Trades
- Helpers - Brick & Stone Masons
- Helpers - Carpenters & Related

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

YAVAPAI COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	133	162	29	10	39
Financial Managers	15	19	4	1	5
Construction Managers	44	54	10	3	13
General Managers & Top Executives	74	89	15	6	21
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	45	54	9	3	12
All Financial Specialists	5	6	1	0	1
Cost Estimators	27	32	5	3	8
All Other Management Support Workers	4	4	0	0	0
All Engineers	3	4	1	0	1
All Engineering & Related Technicians	6	8	2	0	2
SALES & RELATED OCCUPATIONS	13	14	1	0	1
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	137	158	21	14	35
Secretaries	55	66	11	8	19
Bookkeeping, Accounting, & Auditing Clerks	40	44	4	3	7
Payroll & Timekeeping Clerks	6	7	1	0	1
General Office Clerks	23	28	5	3	8
Stock Clerks - Stockroom, Warehouse, or Yard	8	8	0	0	0
All Other Clerical & Administrative Support	5	5	0	0	0
SERVICE OCCUPATIONS	15	17	2	1	3
All Protective Service Workers	7	8	1	1	2
All Cleaning/Building Service, Exc. Private House	8	9	1	0	1
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	7	8	1	1	2
Gardeners & Groundskeepers, Exc. Farm	7	8	1	1	2
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	1,069	1,348	279	73	352
First Line Managers/Supervisors - Construction Trades & Extraction Workers	46	58	12	2	14
All First Line Managers/Supervisors - Maintenance/Production/Construction	4	4	0	0	0
Mobile Heavy Equip. Mechanics, Exc. Engines	13	15	2	0	2
All Other Electrical Mechs./Installers/Repairers	3	3	0	0	0
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	55	68	13	5	18
All Other Mechanics, Installers, & Repairers	24	28	4	1	5
Carpenters	221	306	85	28	113
Drywall Installers	26	32	6	1	7
Tapers	21	26	5	2	7
Electricians	62	77	15	6	21
Brick Masons	60	77	17	4	21
Concrete & Terrazzo Finishers	35	45	10	1	11
Plumbers, Pipefitters, & Steamfitters	42	52	10	3	13
Roofers	30	37	7	1	8
All Other Construction Trades Workers	116	139	23	6	29
All Extraction Workers, Exc. Helpers	4	4	0	0	0
Sheet Metal Workers	27	33	6	1	7
All Precision Woodworkers	12	15	3	0	3
All Plant & System Operators	2	2	0	0	0
Truck Drivers, Heavy or Tractor Trailer	17	19	2	0	2
All Other Motor Vehicle Operators	14	16	2	0	2
Excavating & Loading Machine Operators	16	18	2	1	3
Grader, Dozer, & Scraper Operators	15	17	2	0	2
Operating Engineers	23	26	3	1	4
All Other Material Moving Equipment Operators	5	6	1	0	1
Helpers - Brick & Stone Masons	33	40	7	1	8
Helpers - Carpenters & Related	70	96	26	4	30
Helpers - All Other Construction Trades	14	17	3	0	3
All Freight & Material Movers, Hand	2	2	0	0	0
All Other Helpers & Laborers	57	70	13	5	18
TOTAL OF ALL OCCUPATIONS	1,419	1,761	342	102	444

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

YAVAPAI COUNTY (CONTD.)

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL

All Financial Specialists
Accountants & Auditors

All Engineering & Related Technicians
Drafters

SALES & RELATED OCCUPATIONS

Sales Representatives, Exc. Retail

SERVICE OCCUPATIONS

All Cleaning/Building Service, Exc. Private House
Janitors & Cleaners, Exc. Maids & Housekeeping

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Mechanics, Installers, & Repairers
Bus & Truck Mechs., & Diesel Eng. Specialists

All Other Construction Trades Workers
Lathers
Painters & Paperhangers - Construction & Maintenance
Pipelayers
Insulation Workers
Glaziers

All Precision Woodworkers
Cabinetmakers & Bench Carpenters

All Other Motor Vehicle Operators
Truck Drivers, Light - Incl. Delivery & Route

All Other Material Moving Equipment Operators
Pump Operators

Helpers - All Other Construction Trades
Helpers - Plumbers, Pipefitters, & Steamfitters

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

YUMA COUNTY

	ESTIMATED MAY 1984 EMPLOYMENT	PROJECTED MAY 1988 EMPLOYMENT	JOB OPENINGS DUE TO GROWTH 1984-1988	JOB OPENINGS DUE TO SEPARATIONS 1984-1988	TOTAL JOB OPENINGS 1984-1988
MANAGERIAL & ADMINISTRATIVE OCCUPATIONS	86	97	11	1	12
Financial Managers	16	18	2	0	2
Construction Managers	35	39	4	0	4
General Managers & Top Executives	34	39	5	1	6
All Other Managers & Administrators	1	1	0	0	0
PROFESSIONAL, PARAPROFESSIONAL, & TECHNICAL	38	40	2	1	3
Accountants & Auditors	9	9	0	0	0
Cost Estimators	16	18	2	1	3
All Engineers	6	6	0	0	0
Drafters	5	5	0	0	0
All Other Engineering & Related Technicians	2	2	0	0	0
SALES & RELATED OCCUPATIONS	15	19	4	2	6
CLERICAL & ADMINISTRATIVE SUPPORT OCCUPATIONS	92	102	10	7	17
Secretaries	31	35	4	3	7
Bookkeeping, Accounting, & Auditing Clerks	24	27	3	2	5
Payroll & Timekeeping Clerks	5	5	0	0	0
General Office Clerks	24	27	3	2	5
All Office Machine Operators	1	1	0	0	0
All Material Recording/Scheduling/Dist.	3	3	0	0	0
All Other Clerical & Administrative Support	4	4	0	0	0
SERVICE OCCUPATIONS	29	35	6	4	10
Janitors & Cleaners, Exc. Maids & Housekeeping	29	35	6	4	10
AGRICULTURAL, FORESTRY, & RELATED OCCUPATIONS	19	25	6	3	9
Gardeners & Groundskeepers, Exc. Farm	19	25	6	3	9
PRODUCTION, MAINTENANCE, & MATERIAL HANDLING	829	1,001	172	39	211
First Line Managers/Supervisors - Construction Trades & Extraction Workers	39	43	4	1	5
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	57	70	13	5	18
All Other Mechanics, Installers, & Repairers	12	12	0	0	0
Carpenters	66	87	21	5	26
Drywall Installers	52	68	16	2	18
Electricians	49	60	11	4	15
Brick Masons	26	31	5	1	6
Concrete & Terrazzo Finishers	20	25	5	0	5
Painters & Paperhangers - Construction & Maintenance	47	59	12	4	16
Plumbers, Pipefitters, & Steamfitters	22	26	4	1	5
Roofers	27	33	6	1	7
All Other Construction Trades Workers	98	117	19	1	20
All Extraction Workers, Exc. Helpers	1	1	0	0	0
Sheet Metal Workers	32	38	6	2	8
All Other Precision Metal Workers	4	5	1	0	1
All Metal & Plastic Machine Operators	2	2	0	0	0
All Hand Workers	6	7	1	0	1
Truck Drivers, Heavy or Tractor Trailer	12	13	1	0	1
Truck Drivers, Light - Incl. Delivery & Route	7	7	0	0	0
Operating Engineers	17	18	1	1	2
All Other Material Moving Equipment Operators	9	9	0	0	0
Helpers - Brick & Stone Masons	74	91	17	3	20
Helpers - Carpenters & Related	14	18	4	0	4
Helpers - Painters, Paperhangers, & Plasterers	15	18	3	0	3
Helpers - All Other Construction Trades	23	26	3	1	4
All Freight & Material Movers, Hand	4	4	0	0	0
All Other Helpers & Laborers	94	113	19	7	26
TOTAL OF ALL OCCUPATIONS	1,108	1,319	211	57	268

ESTIMATED EMPLOYMENT AND JOB OPENINGS
CONSTRUCTION

YUMA COUNTY (CONTD.)

Confidential data for certain occupations have been added to "All" or "All Other" categories or collapsed into major occupational classes as follows:

SALES & RELATED OCCUPATIONS

Other Sales Representatives, Exc. Retail

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING

All Other Construction Trades Workers
Ceiling Tile Installers/Accoustical Carpenters
Tapers
Lathers
Reinforcing Metal Workers
Plasterers & Stucco Masons
Pipelayers
Insulation Workers
Glaziers
Structural Metal Workers

PRODUCTION, MAINTENANCE, & MATERIAL HANDLING (CONTD.)

All Hand Workers
Welders & Cutters

Helpers - All Other Construction Trades
Helpers - Electricians & Powerline Installers
Helpers - Plumbers, Pipefitters, & Steamfitters

METHODOLOGY

Sample Selection and Response Rates

Occupational estimates for the construction industry were developed from a survey of employers throughout the state. Employers who were asked to participate in the survey were selected from a master employer file of firms doing business in Arizona, using standardized sampling techniques. A sample of establishments employing 4-99 employees and all establishments having 100 or more employees were surveyed. The entire sample was composed of 2,625 firms with a usable response rate of 85 percent. Firms responding accounted for 88 percent of the industry's employment.

Employment Projections

Projecting occupational employment and demand is accomplished in two basic stages. First, total FIRE employment is estimated for the target years. These forecasts are computed using an econometric model driven by forecast values for variables such as national unemployment, interest rates, and industrial production. Staffing pattern ratios, as determined by the OES survey, are then applied to the industry employment projections and represents the second stage of the forecasting methodology.

Job Openings

"Total Job Openings" represents the sum of openings resulting from expansion and replacement during the projection period. Expansion is the numerical difference in employment for a given period. Replacement represents job openings that transpire due to separations from the labor force, i.e., death, retirement, and pregnancy.[1] The "Total Job Openings" column does not account for labor turnover, i.e., openings created when a worker changes jobs, leaving the job to be filled by someone else. These vacancies are generally the largest source of job openings.

Limitations of the Data

The projection method does not account for cyclical, seasonal, and such external factors as sudden discontinuations or initiations of major government programs.

Employment forecasts for the nonmetropolitan counties are based on growth rates developed for the "balance of state" (Arizona less Maricopa and Pima counties) rather than for individual counties.

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[1] "Tomorrow's Manpower Needs," Supplement No. 4, BLS, 1974, pp. 11-16.

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